CASE STUDIES IN SUSTAINABLE DESIGN
Arch. 313/ENSI 313
Arch 613, section 0001

INSTRUCTOR CONTACT INFORMATION

Instructor: Rives T Taylor FAIA
Office: NA
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Office Hours: On request meetings

COURSE OBJECTIVES AND LEARNING OUTCOMES
GOALS, OBJECTIVES & REQUIREMENTS:

The class participant will attain the insight to deliver sustainable design that responds to real world problems at a variety of scales, in the context of the natural environment. This pedagogy is predicated on both the ability explore how our built environment performs and understanding the implications of our design and construction through the operational (full life) cycle. The class will also seek to elevate and enhance the knowledge base from previous courses, including foci on technology, cultural histories, and studio design.

These goals will be obtained through each student

- Acquiring an understanding of the principles of sustainable design, planning and development at and between a variety of scales and settings;
- Attaining an ability to critically examine the challenges and opportunities to plan for, build, and direct sustainable practices in the built environment;
- Reviewing current sustainable architectural theory and discourse in context so to understand its applicability and implications in practice.

Course Requirements

The format for the course will be reading and report intensive with the class focus on lecture and discussion.

There will be short but required weekly readings that will serve as the basis for class discussion. Each student will be expected to have read the materials and come prepared to discuss by arriving with a framed question that the reading has generated. Several research topics will be assigned that ask students to apply the concepts presented throughout the course to specific case study projects.

As specified below, the requirements differ for the 300 level and 600 level versions of this course, so please take care before registering for one or the other number!

UNDERGRADUATE GRADUATE REQUIREMENTS: Arch 313 & ENSI 313
Course requirements *[see part 2 for more details of delivery requirements]*

Specific course requirements are as follows:

- Class participation and ONE short class presentation on Manifestoes of Sustainability
  All students are required to attend class regularly, sign in, and contribute to class discussions.
  The presentation is a 10-minute overview of "green thinkers" assigned in first class – presentation mode is at the discretion of the student

  Grading 15%.

- Project 1: CASE STUDY
  Students will select a case study review within their area of interest and draft a final paper/plan/site plan/architectural design based on specific parameters (see discussion below). All students' final work will be submitted as a digital document or hardcopy following Rice standards on the due date noted in the schedule.
  313 Students: Students may work individually or in groups no larger than 3 team members.

  Grading Value for Semester: 15%.

Sarah Whiting 8/4/2015 9:33 PM
Comment [1]: Specify for 613 students

- Project 2: ECOLOGICAL FOOTPRINT
  Students will be required to select an eco-footprint of a common material based on specific parameters noted below.
  313 Students: Students may work individually or in groups no larger than 3 team members.

  Grading Value for Semester: 20%.

Sarah Whiting 8/4/2015 9:33 PM
Comment [2]: Specify for 613 students

- Project 3
  ECOLOGICAL STUDY APPLIED TO STUDENT'S DESIGN (ARCHITECTURE Majors) or Course work aligned with Discipline/Major (non architecture Majors)
  Having spent the semester learning the various strategies and scales of sustainable design, the final project offers you the opportunity to apply these concepts to your own "designs" or professional interests.

  By taking either a former or current design studio project, you will apply one "all encompassing" strategy (using the LEED format we used for design strategies - site, water, energy, material and indoor environmental quality) in both written and drawing documentation. The scale and means of delivery obviously depend on the nature of the original design problem

  If you do not have a suitable project for this "review" and addition, I have also suggested that the assignment can be carried out by reviewing any project being undertaken on the UH or Rice Campuses. The additional challenge here is to get measured drawings of the projects, perhaps augmented by photo-montages of physical changes that your would design.

  This is a design assignment that needs a suitable level of thought and documentation. I would appreciate some "pre-submission" on your part identifying the project you would use as well as the level of documentation that you feel necessary and are capable of pulling together in the time frame available.

  Grading Value for Semester: 20%.

- Project 4
  ECOLOGICAL STUDY APPLIED TO A CAMPUS ENVIRONMENT

  Having spent the semester learning the various strategies and scales of sustainable design, the final project offers you the opportunity to apply these concepts to your own *current or future* Rice environments.

  Take a critical environmental performance view of the spaces on campus in which you spend a good bit of time – how are they are sustainable spaces based on the lessons of our class? How might they be improved?
  OR
  In discussion with Richard Johnson, Rice University facility initiatives are in the works that warrant a proposal from the insights gained from this class.

  Grading Value for Semester: 30%.

Undergraduate Students:
Students can work on teams for projects 1 and 2 and must work individually for projects 3 and 4.

ALWAYS please cite/credit/reference any data/information resources!!

The target for the work submitted to be delivered to Prof. Taylor:

Manifesto Presentation: 3 September 2015

Project 1: first draft accepted no later than 1 October 2015.

Project 2: first draft accepted no later than 15 October 2015.

Project 3: first draft accepted no later than 5 November 2015.

Project 4: first draft accepted no later than 3 December 2015.

RESUBMISSIONS ACCEPTED UNTIL 15 December, 2015

GRADUATE REQUIREMENTS: Arch 613
Course requirements *[see part 2 for more details of delivery requirements]*

Same description and dates as above for Arch/Ensi 313 BUT all projects are individual submissions, not group submissions

AND

Each graduate student will present to the class a 15-minute overview of two of their project topics.

OR

This Proposed Independent Research Topic is purposefully organized to allow a breadth of student RESEARCH and presentation. Part of this ALTERNATIVE semester project will be based upon the nature of research and ability to communicate findings based on substantial investigation, as well as quality of final delivery.

Minimal requirements for this research are

- Midterm précis, proposal of method and bibliography
  first draft accepted no later than 15 October 2015

- Final product – size and method to be negotiated with Professor Taylor
  Project 4: first draft accepted no later than 3 December 2015.

REQUIRED TEXTS AND MATERIALS

The format for the course will be reading and report intensive with the class focus on lecture and discussion.

There will be short but required weekly readings that will serve as the basis for class discussion. Each student will be expected to have read the materials and come prepared to discuss by arriving with a framed question that the reading has generated. Several research topics will be assigned that ask students to apply the concepts presented throughout the course to specific case study projects.

EXAMS AND PAPERS

REQUIRED RESOURCE "READINGS" WILL BE DISTRIBUTED ELECTRONICALLY OR IN OWL-SPACE

A Bibliography comes with the course that can be used for any of the projects or future reference

GRADE POLICIES

The first project, Case Study, approach is typical:

Grade of 95%
Full description case study data, narrative, outcomes when project realized and how it performed, with copious illustrations, including team commentary on missing pieces of the puzzle. Rudimentary full cost and operations implications. Full bibliography and MULTIPLE and VALIDATING sources, including team commentary on validity of these sources.

Grade of 85%:
Good description of project with illustrations and sources, but minimal team commentary on design targets and realized outcomes, and/or costing.

Grade of 75%

A minimal submission, with uncertainties in case study outcomes

ABSENCE POLICIES

The class recognizes the students are professionals and absences are to be announced/confirmed with the faculty.

RICE HONOR CODE

In this course, all students will be held to the standards of the Rice Honor Code, a code that you pledged to honor when you matriculated at this institution. If you are unfamiliar with the details of this code and how it is administered, you should consult the Honor System Handbook at http://honor.rice.edu/honor-system-handbook/. This handbook outlines the University's expectations for the integrity of your academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process.

DISABILITY SUPPORT SERVICES

If you have a documented disability or other condition that may affect academic performance you should: 1) make sure this documentation is on file with Disability Support Services (Allen Center, Room 111 / adarice@rice.edu / x5841) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs.

SYLLABUS CHANGE POLICY

This syllabus is only a guide for the course and is subject to change with advanced notice.

COURSE SCHEDULE

Week 1	Review of GLOBAL and REGIONAL Imperatives	
8/27		
Week 2	Manifestoes Theory and Precedent	
9/3		
Week 3	Tour of Rice University: Current and Future Campus	Led by Richard Johnson
9/10		
Week 4	***The Geographic and Typological Samples:***	
9/17	**Site and Ecosystem**	
Week 5	***The Geographic and Typological Samples:***	
9/24	**Material Resources**	
Week 6	***The Geographic and Typological Samples:***	
10/1	**Wellbeing + Indoor Environmental Quality**	
Week 7	***The Geographic and Typological Samples:***	
10/8	**Energy & Atmosphere**	
Week 8	***The Geographic and Typological Samples:***	
10/15	**Water Resources**	
Week 9	No Class	
10/22		
Week 10	*Typology Case Study: Sustainable to Regenerative*	
10/29	Residential, Neighborhood and City	
Week 11	*Typology Case Study: Sustainable to Regenerative*	
11/5	Houston Academic and Corporate Campuses - low and high scale	
Week 12	*Typology Case Study: Sustainable to Regenerative*	

11/12	Commercial - single purpose and mixed use	
Week 13	**Future Trends: Resilience Defined at Any Scale & Biomimicry as "guide star"**	
11/19		
Week 14		
11/26	Thanksgiving Recess: No Class	
Week 15	Drivers of Change and the danger of prediction. Sustainable Heresy	
12/3	Graduate Presentations	